



# THE DATASHEET OF GBU810

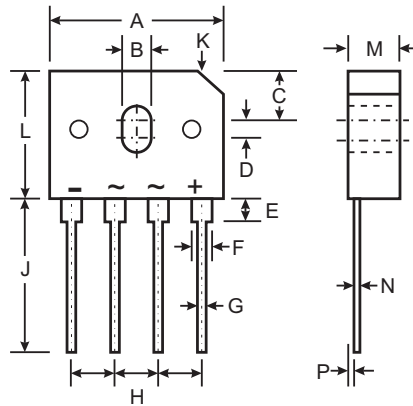


### Features

- Glass Passivated Die Construction
- High Case Dielectric Strength of 1500VRMS
- Low Reverse Leakage Current
- Surge Overload Rating to 200A Peak
- Ideal for Printed Circuit Board Applications
- UL Listed Under Recognized Component Index, File Number E94661
- **Lead Free Finish, RoHS Compliant (Note 4)**

### Mechanical Data

- Case: GBU
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Tin. Solderable per MIL-STD-202, Method 208 (e3)
- Polarity: Marked on Body
- Mounting: Through Hole for #6 Screw
- Mounting Torque: 5.0 Inch-pounds Maximum
- Ordering Information: See Last Page
- Marking: Date Code and Type Number
- Weight: 6.6 grams (approximate)



GBU		
Dim	Min	Max
A	21.8	22.3
B	3.5	4.1
C	7.4	7.9
D	1.65	2.16
E	2.25	2.75
F	1.95	2.35
G	1.02	1.27
H	4.83	5.33
J	17.5	18.0
K	3.2 X 45°	
L	18.3	18.8
M	3.30	3.56
N	0.46	0.56
P	0.76	1.0
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Single phase, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	GBU 8005	GBU 801	GBU 802	GBU 804	GBU 806	GBU 808	GBU 810	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Forward Rectified Current (Note 1) @ T <sub>C</sub> = 100°C	I <sub>(AV)</sub>				8.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>				200				A
Forward Voltage (per element) @ I <sub>F</sub> = 4.0A	V <sub>FM</sub>				1.0				V
Peak Reverse Current @ T <sub>C</sub> = 25°C at Rated DC Blocking Voltage @ T <sub>C</sub> = 125°C	I <sub>R</sub>				5.0 500				μA
I <sup>2</sup> t Rating for Fusing (t < 8.3ms) (Note 2)	I <sup>2</sup> t				166				A <sup>2</sup> s
Typical Total Capacitance per Element (Note 3)	C <sub>T</sub>				130				pF
Typical Thermal Resistance Junction to Case (Note 1)	R <sub>θJC</sub>				2.2				°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>				-55 to +150				°C

- Notes:
1. Unit mounted on 50 x 50 x 1.6mm copper plate heatsink.
  2. Non-repetitive, for t > 1.0ms and < 8.3ms.
  3. Per element, measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

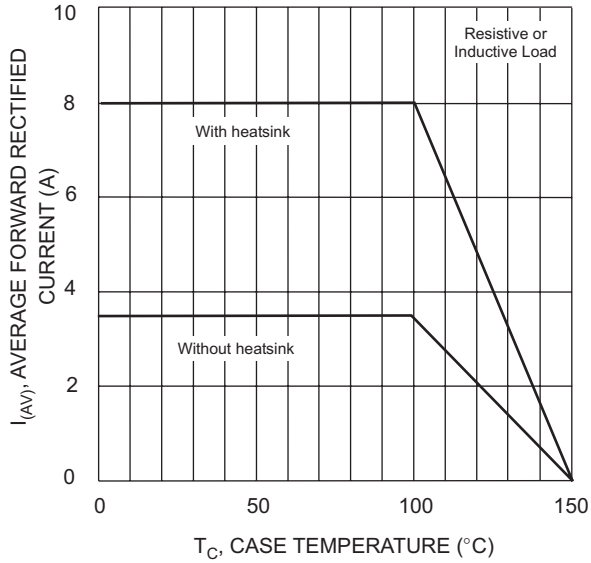


Fig. 1 Forward Current Derating Curve

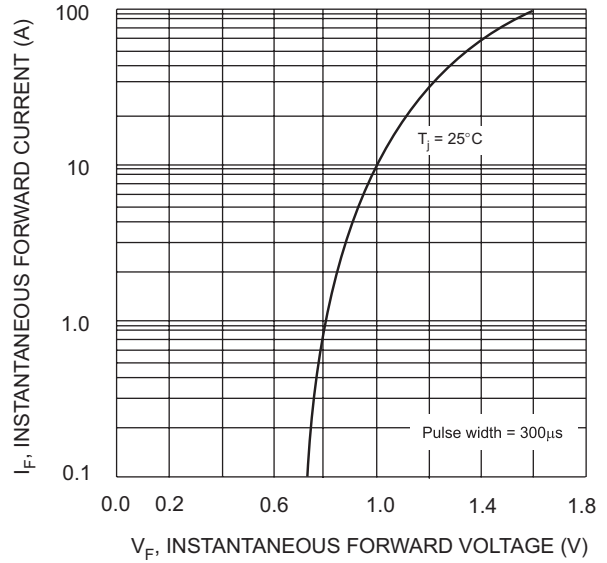


Fig. 2 Typical Forward Characteristics, per element

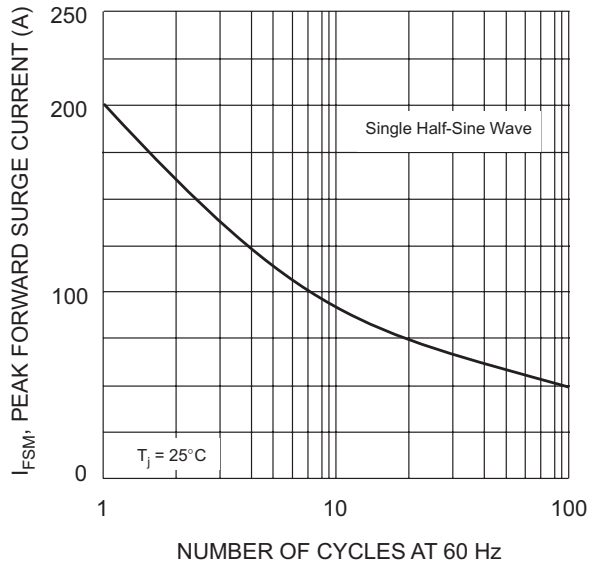


Fig. 3 Maximum Non-Repetitive Surge Current

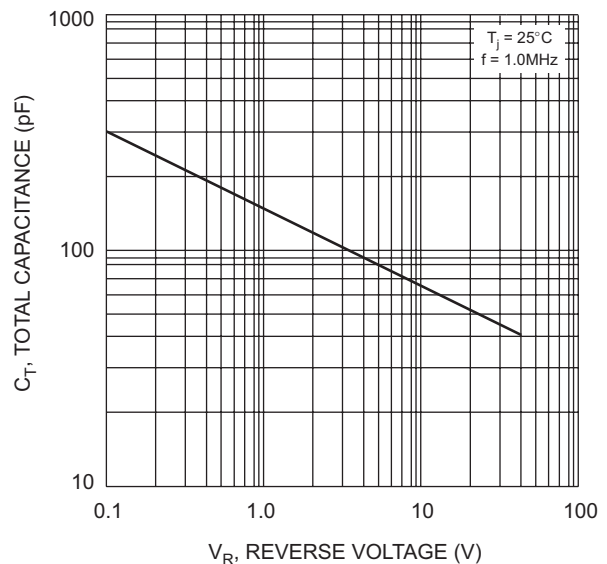


Fig. 4 Typical Total Capacitance, per element

**Ordering Information** (Note 5)

Device	Packaging	Shipping
GBU8005	GBU	20/Tube
GBU801	GBU	20/Tube
GBU802	GBU	20/Tube
GBU804	GBU	20/Tube
GBU806	GBU	20/Tube
GBU808	GBU	20/Tube
GBU810	GBU	20/Tube

Notes: 5. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

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